

MONTHLY WEATHER REVIEW.

VOL. XIII.

WASHINGTON CITY, MARCH, 1885.

No. 3.

INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during March, 1885, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic ocean during the month are also given, and their approximate paths shown on chart i.

The most noteworthy meteorological features of the month were the marked departures from the normal temperature and precipitation.

The month was exceptionally cold in the districts east of the Mississippi river, and also in the west Gulf states and southern slope. Except in Florida and Tennessee, the mean temperatures in the districts east of the Mississippi averaged more than 6° below the normal; the departures were greatest in the lake region where they exceeded 9°. In the upper Missouri valley, Rocky mountain regions, and on the Pacific coast the month was warmer than the average; in these districts the temperature averaged from 2° to 6° above the normal.

The precipitation was deficient over nearly the whole country, the departures from the average being unusually large in the districts east of the Mississippi and on the Pacific coast.

On chart i. are traced the paths of the centres of eleven atmospheric depressions which are described under "Areas of low barometer;" the average number of depressions charted for March during the last eleven years is 12.5.

But few local storms occurred during the month, and those reported were not unusually severe.

During the night of the 15-16th an auroral display was observed in nearly all the northern districts and as far southward as Nashville, Tennessee.

In the preparation of this REVIEW the following data, received up to April 20th, 1885, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-nine Signal Service stations and nineteen Canadian stations, as telegraphed to this office; one hundred and sixty-nine monthly journals and one hundred and sixty-nine monthly means from the former, and nineteen monthly means from the latter; two hundred and ninety-eight monthly registers from voluntary observers; forty-six monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly reports from the New England Meteorological Society, and from the local weather services of Alabama,

Georgia, Illinois, Indiana, Louisiana, Minnesota, Missouri, Nebraska, Ohio, and Tennessee, and of the Central Pacific Railway Company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for March, 1885, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart ii.

An area of barometric maxima occupies the northern and central Rocky mountain districts where the mean pressures range from 30.2 to 30.28; an area of barometric minima is shown over New England and the Maritime Provinces, where the barometric means vary from 29.9 to 29.96. The mean pressure is above 30.1 over nearly the entire country, the isobar for 30.1 being traced from western Lake Superior to the south Atlantic states and thence along the southern borders of the country to the Pacific coast.

Compared with the mean pressure for the preceding month there has been an increase (instead of the usual decrease which occurs in March) in all parts of the United States, except on the middle Pacific coast, where the barometric means are from .04 to .06 below those for February. The increase is most marked over the Rocky mountain districts and the north Pacific coast, where it varies from .10 to .18. In all districts east of the Rocky mountains the mean pressures are from .04 to .10 higher than those for February.

Compared with the normal pressure for March an increase is shown over nearly the whole country. At Alpena, Michigan, a slight deficiency occurs, but at all other stations the mean pressure is above the normal. Over an extensive area, reaching from the west Gulf states to the north Pacific coast, the departures exceed .10. The greatest departures are as follows: Olympia, Washington Territory, and Santa Fé, New Mexico, .15; Fort Apache, Arizona, .16.

BAROMETRIC RANGES.

The monthly barometric ranges for the several stations are given in the table of miscellaneous meteorological data; they were greatest in the northern districts to the east of Dakota, and least at the Rocky mountain stations, in Florida, Rio Grande valley, and California. The smallest ranges are .33 at Fort Apache, Arizona, and .38 at Fort Maginnis and Helena, Montana; the largest are 1.29 at Saint Vincent, Minnesota; 1.30 on the summit of Mount Washington, New Hampshire; and 1.33 at Eastport, Maine.

AREAS OF HIGH BAROMETER.

During the month seven areas of high barometer passed over the districts east of the Rocky mountains. The pressure in nearly all districts during the first week of the month remained somewhat high, and it was not until the 7th that any well-defined area made its appearance.

I.—This area first appeared in Idaho during the afternoon of the 7th, moving slowly southeastward. The area, though well-defined and of considerable magnitude, had but little influence on the temperature, which, at the time the area was first observed, was in nearly all districts abnormally low. The fall in temperature accompanying the movement of the area